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Group Art Unit: 2663
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Amendment to the Claims

1 (Currently Amended). A method for transmitting an IP packet between a first IP device and a second IP device via a synchronous optical network ~~including a plurality of routers running a second communications protocol different from said first and second IP devices,~~ comprising:

receiving IP packets from the first IP device at a local IP gateway connected to the synchrounous optical network; and

routing the IP packet to an IP tunneling layer network interface, wherein the IP tunneling layer network interface translates the IP packet to a second protocol to be transmitted over a data communications channel in the synchronous optical network to a remote IP gateway connected to the second IP device~~overlaying an IP interface over said second communications protocol in selective ones of said plurality of routers~~.

2 (Cancelled). Please cancel claim 2.

3 (Currently Amended). The method of claim 1 ~~2~~, further comprising ~~wherein the router connected to said first IP device comprises a local gateway and the router connected to said second IP device comprises a remote gateway, wherein the overlaid IP interface co-exists with said second communications protocol in said local gateway and said remote gateway, and said step of overlying said IP interface over said second communications protocol comprises:~~

establishing an IP tunnel interface comprising a network address for uniquely identifying the remote IP gateway in the second communications protocol, an interface number for reaching said network address, and an IP address for said second IP device to transmit an IP packet.

4 (Currently Amended). The method of claim 3, wherein the remote IP gateway includes a table indicating the IP address of the second IP device.

5 (Currently Amended). The method of claim 4, wherein the remote IP gateway receives the IP address for the second IP device from the local IP gateway via the data communications channel over the synchronous optical network ~~second communicaitions protocol~~ and sends the IP packet to the second IP device using an IP protocol.

6 (Currently Amended). The method of claim 1, wherein said second communications protocol comprises ~~SONET OSI~~ CLNP and the synchronous optical network is a SONET network.

7 - 23 (Cancelled). Please cancel claims 7 through 23.

Please add the following new claims:

24 (New). A network element connected between an IP network and a synchronous optical network, comprising:

a first interface for receiving IP packets from the IP network ;

a routing table for storing information about IP devices connected to network elements in the synchronous optical network ; and

an IP tunneling layer network interface that translates the IP packets into a second protocol to be communicated over a data communication channel in overhead of synchronous optical frames in the synchronous optical network and wherein the routing table is used to determine a destination network element in the synchronous optical network.

25 (New). The network element in claim 24, wherein the routing table associates an IP destination address with a specific port of the network element.

26 (New). The network element in claim 25, wherein the second protocol is connection less network protocol (CLNP) and the synchronous optical network is a SONET network.